

# FIFTH WMO WORKSHOP ON THE IMPACT OF VARIOUS OBSERVING SYSTEMS ON NWP

Sedona, Arizona, (USA)  
22-25 May 2012



**THORPEX**  
A World Weather Research Programme



## Draft Programme

(updated 3 May 2012)

## Tuesday 22 May 2012

|       |  |
|-------|--|
| 08:00 | Continental breakfast and registration |
| 09:00 | Welcome and opening remarks            |

### ***Session 1: Global forecast impact studies***

*Co-chairs: Florence Rabier and Ron Gelaro*

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|-------|--|--|
| 09:30 | Rolf Langland, Naval Research Laboratory     | Uncertainty in operational atmospheric analyses and re-analyses  |
| 09:55 | James Jung, NOAA                             | Observing System Experiments using the NCEP Global Data Assimilation System  |
| 10:20 | Break  |  |
| 10:50 | John Eyre, Met Office                        | Impact studies with satellite observations at the Met Office   |
| 11:15 | Erik Andersson, ECMWF                        | Impact of satellite and conventional observations on the performance of the ECMWF data assimilation system by Observing System Experiments |
| 11:40 | Alexander Cress, DWD                         | Global impact studies at the German Weather Service and Regional impact studies at the German Weather Service (DWD)                        |
| 12:05 | Nancy Baker, NRL                             | The Impact of Satellite Atmospheric Motion Vectors in the U.S. Navy Global Data Assimilation System  |
| 12:30 | Lunch  |  |
| 13:30 | Yong-Sang Kim, KMA                           | The new NWP system at KMA and some preliminary results of sensitivity test to observational data   |
| 13:55 | Yan Liu, China Meteorological Administration | Use and impact of GPS radio occultation data in GRAPES   |
| 14:20 | Patrick Moll, Météo-France                   | Data impact studies in the global NWP model at Meteo-France  |
| 14:45 | Break  |  |
| 15:15 | Florence Rabier, Météo-France                | Impact of observations in the Southern Polar area during the Concordiasi field experiment  |
| 15:40 | Lidia Cucurull, NOAA                         | Assessing the benefits of assimilating GPS RO profiles into Global Numerical Weather Prediction Models                                     |
| 16:05 | Sean Healy, ECMWF                            | GNSS radio occultation measurements: Current status and future perspectives  |
| 16:30 | Yoichiro Ota, NCEP                           | Observation impact estimates using the NCEP GFS/EnKF   |
| 16:55 | Discussion session 1                         |  |
| 18:00 | Cash bar                                     |  |

## Wednesday 23 May 2012

### Session 2: Regional forecast impact studies

*Co-chairs: John Eyre and Yoshiako Sato*

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|-------|--|--|
| 09:00 | Stan Benjamin, NOAA  | Impact of upper-air and near-surface observations on short-range forecasts from an hourly assimilation cycle (RUC and Rapid Refresh)                         |
| 09:25 | Yoshiaki Sato, Japan Meteorological Agency                         | Global and regional impact studies at JMA  |
| 09:50 | Dale Barker, Met Office<br>Presented by Gareth Dow                 | Marginal benefit of higher resolution analysis and mesoscale observing networks in the UK Met Office operational convective scale model                      |
| 10:15 | Xiang-Yu Huang, UCAR   | Monitoring the observation impact with Taiwan Central Weather Bureau operational analysis/forecast system  |
| 10:40 | Break  |  |
| 11:10 | Gergely Bölöni, Hungarian Meteorological Service                   | Regional aspects of a European upper-air network redesign study: results obtained with the ALADIN limited-area model at the Hungarian Meteorological Service |
| 11:35 | Siebren de Haan, KNMI  | Operational use of high resolution observations for very short term numerical forecasting  |
| 12:00 | Roger Randriamampianina, Hungarian Meteorological Service          | Impact of different observation types in the HIRLAM/ALADIN-LACE regional weather forecasting models  |
| 12:25 | Lunch  |  |
| 13:25 | Jean-François Mahfouf, Météo-France/ CRNS, CNRM/GAME, GMAP         | Evaluation of data impact in the mesoscale AROME 3D-Var system at Météo-France   |
| 13:50 | Chris Tingwell, Centre for Australian Weather and Climate Research | Observing system impact studies in ACCESS  |
| 14:15 | Ralph Petersen, University of Wisconsin                            | Impact of AMDAR aircraft observations  |
| 14:40 | José Antonio Aravéquia, INPE/CPTEC                                 | The role of assimilating satellite data over South America using LETKF   |
| 15:05 | Break  |  |
| 15:35 | Discussion session 2   |  |

### Session 3: Specific scientific areas (including network design)

*Co-chairs: Carla Cardinali and Lars-Peter Riishojgaard*

|       |   |  |
|-------|---|--|
| 16:35 | Sharan Majumdar, Rosenstiel School of Marine and Atmospheric Science, University of Miami | Targeted observations for improving Numerical Weather Prediction: An overview  |
| 17:00 | Brett Hoover, University of Wisconsin   | Observation target regions for improving NWP tropical cyclone motion forecasts: Comparison of objective sensitivity-targeting techniques |

17:25 Adjourn

## Thursday 24 May 2012

### Session 3: Specific scientific areas (continued)

|       |  |   |
|-------|--|---|
| 08:30 | Martin Weissmann, Ludwig-Maximilians Universität               | The impact of T-PARC special observations on typhoon track and mid-latitude forecasts   |
| 08:55 | Richard Marriott, Met Office                                   | Adjoint-based impact studies of surface-based observation types at the Met Office   |
| 09:20 | Sangwon Joo, Korea Meteorological Administration               | Satellite impact to short-range global forecast using the adjoint-based sensitivity method  |
| 09:45 | Toshiuki Ishibashi, Japan Meteorological Agency                | Estimation of linear observation impact and its applications  |
| 10:10 | Break  |   |
| 10:40 | Cristina Lupu, ECMWF   | Use of DFS to estimate observation impact in numerical weather prediction. Comparison of observation impact derived from OSEs and DFS results |
| 11:05 | Ron Gelaro, NOAA/GMAO  | The Impact of Satellite Atmospheric Motion Vectors in the GMAO GEOS-5 Global Data Assimilation System   |
| 11:30 | Carla Cardinali, ECMWF   | Monitoring the observations performance in the forecast   |
| 11:55 | Ronald M. Errico, NASA   | The use of observation impact estimates to validate an OSSE   |
| 12:20 | Johannes Schmetz, EUMETSAT                                     | On the role of NWP impact studies to support the evolution and development of current and future satellite programmes                         |
| 12:45 | Lunch  |   |
| 13:45 | Yves Rochon, Environment Canada                                | Observation system simulation experiments for the PREMIER mission   |
| 14:10 | Louis Garand, Environment Canada                               | Assimilation impact from satellite wind observations filling the gap at high latitudes  |
| 14:35 | Junghong Wang, National Center for Atmospheric Research (NCAR) | Opportunities and challenges in designing a reference upper-air network in support of NWP   |
| 15:00 | Stefan Klink, DWD<br>Presented by Sabine Hafner                | Update on observation impact studies coordinated by EUCOS and plans for future studies  |
| 15:25 | Break  |   |
| 15:55 | Jaime Daniels, NOAA  | Satellite winds   |
| 16:20 | Discussion session 3   |   |

17:20 Adjourn

## Friday 25 May 2012

### Session 4: Workshop discussions and conclusions

|       |  |
|-------|--|
| 08:30 | Discussion and recommendations (Session 1) |
| 09:30 | Break                                      |
| 10:00 | Discussion and recommendations (Session 2) |
| 11:00 | Discussion and recommendations (Session 3) |
| 12:00 | Closure of the workshop                    |